

Forestland Interpretations

Forestland interpretations are important to good management. The management of trees begins with an understanding of the soil where they grow or are to be grown. Some soils are very suitable for growing wood crops; others barely support tree cover. Different tree species may vary in production on the same soil.

Forestland interpretations should be used to assist land users in planning, installing, and maintaining forestland management systems.

Forest Management and Productivity

The Forestland Management and Productivity tables presents information about suitable for producing timber for each soil map unit. Management concerns, which include hand planting, mechanical planting, use of harvesting equipment, mechanical site preparation (surface), roads (natural surface), erosion on roads and trails, off-road/trail erosion, soil rutting, log landings, seedling survival, are listed by ratings of:

- Not Limited (0.00)
- Slightly Limited (0.01 to 0.30)
- Moderately Limited (0.31 to 0.60)
- Limited (0.61 to 0.99)
- Very Limited (1.00)

Information on potential productivity includes plant competition, common trees, site index, productivity class, and trees to plant.

Management Concerns

PLANT COMPETITION - A rating of slight indicates little or no competition from other plants; moderate indicates that plant competition is expected to hinder the development of the fully stocked stand of desirable trees; and severe means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

POTENTIAL PRODUCTIVITY - This is discussed under the ordination class symbol.

COMMON TREES - Trees that generally occur on the soil are listed regardless of economic importance.

SITE INDEX AND PRODUCTIVITY CLASS - These are discussed under ordination class symbol.

TREES TO PLANT - Trees that are suitable for commercial wood production and that are adapted to the soil.

HAND PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

MECHANICAL PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

USE OF HARVEST EQUIPMENT – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

MECHANICAL SITE PREPARATION (SURFACE) – ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

ROADS (NATURAL SURFACE) – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

EROSION (ROAD/TRAIL) – ratings are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

EROSION (OFF-ROAD/OFF-TRAIL) – ratings are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

SOIL RUTTING – ratings are based on a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ratings indicate the hazard or risk of ruts in the uppermost soil surface layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

LOG LANDINGS – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and allows the efficient and effective use of equipment for the temporary storage and handling of logs.

SEEDLING SURVIVAL – ratings are based on flooding, ponding, a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

See the National Forestry Manual, Subpart B for criteria used in rating management concerns.

This subsection includes:

- **(a) Forest Management (one or two tables)**

Newton County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
1B: Newtonia-----	---	---	---	---
2B: WANDA-----	---	---	---	---
3C: Eldorado-----	---	---	---	---
6B: Crelton-----	---	---	---	---
8B: Captina-----	black oak----- post oak-----	60 ---	43 0	black locust, black oak, white ash
9B: Needleye-----	black oak----- blackjack oak----- post oak-----	60 --- ---	43 0 0	black oak, pin oak, white ash
10: Bado-----	black oak----- blackjack oak----- post oak-----	52 --- 50	36 0 36	American sycamore, black oak, green ash, pin oak
21B: Claiborne-----	black oak----- northern red oak---- white oak-----	70 70 65	52 52 47	black walnut, loblolly pine, shortleaf pine
Peridge-----	black walnut----- northern red oak---- white ash----- white oak-----	--- 70 --- ---	0 52 0 0	black walnut, loblolly pine, northern red oak, shortleaf pine, white ash

Newton County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
23B: Bolivar-----	black oak----- black walnut----- northern red oak---- white oak-----	--- --- --- 57	0 0 0 40	shortleaf pine, white ash, white oak
25: Gerald-----	---	---	---	---
26: Carytown-----	pin oak-----	50	43	american sycamore, pin oak
27C: Bolivar-----	black walnut----- blackjack oak----- northern red oak---- post oak----- white oak-----	--- --- --- --- 57	0 0 0 0 40	shortleaf pine, white ash, white oak
30C: Keeno-----	---	---	---	---
35E: Nixa-----	black oak----- blackjack oak----- hickory----- post oak-----	50 --- --- ---	34 0 0 0	black locust, black oak, white ash
Clarksville-----	black oak----- northern red oak---- white oak-----	61 61 58	44 44 41	shortleaf pine, white ash, white oak
44G: Rock outcrop-----	---	---	---	---

Newton County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
44G: (cont)				
Clarksville-----	black oak-----	61	44	northern red oak, shortleaf pine, white ash, white oak
	northern red oak----	61	44	
	white oak-----	58	41	
45F:				
Clarksville-----	black oak-----	61	44	shortleaf pine, white ash, white oak
	northern red oak----	61	44	
	white oak-----	58	41	
50C:				
Nixa-----	black oak-----	50	34	black locust, black oak, white ash
	blackjack oak-----	---	0	
	hickory-----	---	0	
	post oak-----	---	0	
54:				
Dunning, frequently flooded-----	American sycamore---	---	0	American sycamore, baldcypress, pin oak
	black willow-----	---	0	
	boxelder-----	---	0	
	pin oak-----	75	57	
	red maple-----	---	0	
55:				
Huntington, occasionally flooded-----	northern red oak----	86	68	black locust, black walnut, eastern white pine
61B:				
Hoberg-----	black oak-----	60	43	black oak, white ash, white oak
	blackjack oak-----	---	0	
	post oak-----	---	0	

Newton County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
76: Hepler, occasionally flooded-----	common hackberry----	76	0	American sycamore, pecan, white ash
	eastern cottonwood--	90	0	
	green ash-----	73	82	
	northern red oak----	67	49	
	pin oak-----	80	62	
81B: Tonti-----	black oak-----	60	43	black locust, black oak, white ash
	post oak-----	---	0	
92A: Secesh, rarely flooded--	American sycamore---	---	0	American sycamore, black walnut, shortleaf pine
	black oak-----	---	0	
	black walnut-----	---	0	
	white oak-----	60	43	
Cedargap, frequently flooded-----	black oak-----	66	48	black oak, shortleaf pine
93B: Waben, rarely flooded---	black cherry-----	---	0	black locust, black walnut, eastern redcedar, loblolly pine, shortleaf pine, southern red oak
	black locust-----	---	0	
	black oak-----	66	48	
	black walnut-----	---	0	
	white oak-----	---	0	
Cedargap, frequently flooded-----	black oak-----	66	48	black oak, shortleaf pine

Newton County, Missouri
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
94: Dumps-----	---	---	---	---
Orthents-----	---	---	---	---
96: Orthents-----	---	---	---	---
Quarries-----	---	---	---	---
W: Water-----	---	---	---	---